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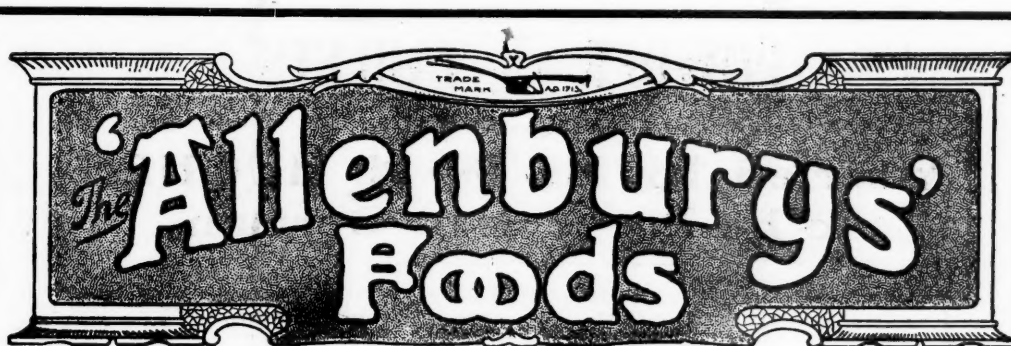
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No. 4.

ASTHMA: ITS CAUSE AND TREATMENT.

By W. W. Ewbank, M.R.C.S. (Eng.),
Melbourne.

Asthma is a subject about which there has always been a great difference of opinion as to what is the physiological cause, as to what are the physical signs and as to what is the exciting cause of the physiological condition produced.

The treatment has generally been limited to the temporary relief of the condition. As a disease, it has been looked upon as incurable.

About three or four years ago a discussion took place at the General Meeting of the British Medical Association in England on this subject. Sir Clifford Allbutt wrote to the President of the Section, saying that he hoped that they would confine the discussion to spasmodic asthma, and not introduce what was called by many cardiac asthma, renal asthma, etc., which certainly were dyspnoeas, but not spasmodic asthma at all. This led to a great discussion as to what asthma was, and what was asthma, but the result was disappointing. Many agreed that cardiac dyspnoea was asthma. Although the dyspnoea produced by cardiac obstruction, leading to pulmonary congestion and perhaps oedema, is not asthma, still, as I shall show later, it is not impossible that certain affections of the heart or of any other organ may indirectly produce this condition. Spasmodic asthma is a dyspnoea produced by a reflex contraction of the bronchial muscles and a dilatation of the bronchial vessels. Whether there is any spasm of the diaphragm at the same time is uncertain, but probable at certain stages. The source of irritation is some portion of the mucous membrane lining the nose. The irritants are many and varied, and the particular irritant that will produce the spasm in one asthmatic will perhaps not do so in another.

Reflex Arc.

The nerves that enter into the reflex arc are as follow: (1) The anterior ethmoidal nerve is a branch of the naso-ciliary, which is a branch of the ophthalmic, the latter being a sensory branch of the fifth cranial nerve. The anterior ethmoidal nerve supplies the mucous membrane covering the anterior portion of the nasal septum. (2) The sphenopalatine nerves are branches of a division of the maxillary, after it has run into the sphenopalatine ganglion. They are distributed to the nasal mucous membrane. The sphenopalatine ganglion also gives off (a) the posterior superior lateral nasal rami to the mucous membrane of the superior nasal meatus, and to the superior and middle turbinate bodies, (b) the posterior superior medial nasal rami to the mucous membrane covering the posterior part of the nasal septum (a longer branch known as the nasopalatine passes obliquely across the septum to the incisive canal), and (c) the posterior inferior nasal

rami to the mucous membrane of the middle and especially the inferior turbinate bodies, and the middle and inferior meatus.

The maxillary is the other sensory branch of the fifth cranial nerve. When these branches reach the Gasserian ganglion, some fibres end in the cells of that body, but a branch enters the brain and ends in a collection of cells in the pons, the so-called sensory nucleus, and partly in a column of cells extending posteriorly throughout the length of the medulla. These cells and the fibres ending in them constitute the descending spinal root of the fifth.

The vagus or motor portion of the arc leaves the medulla, passes down to the small jugular ganglion, where it communicates with the sympathetic. It passes down behind the bronchus of its side, to form the pulmonary plexus. The anterior and posterior bronchial rami are numerous, and in part very strong branches of the vagus, and pass to the hilum of the lung, the posterior ones being the longer. In the hilum they form the weaker anterior pulmonary plexus, and the stronger posterior pulmonary plexus. Each plexus sends branches along the bronchial rami to the musculature of the bronchial tubes. The vagus contains motor, sensory and sympathetic fibres.

Symptoms.

The attack may come on gradually or suddenly, with a sense of oppression on the chest, fullness in the head, and a difficulty in inspiring. As the attack progresses the face becomes pale, the expression anxious, and the breathing more difficult. The patient will sit by an open window for choice, with his arms on the back of a chair, and leaning forward. He cannot lie down. The dyspnoea at this stage is mainly expiratory, and a musical wheeze may be heard across the room. The breathing, as a rule, is not accelerated, but deep and slow, the pulse is small and quick and the extremities cold. Hyperidrosis and the secretion of tears occur. If no relief is obtained, the condition of the patient looks desperate, the face is cyanosed and bedewed with sweat, all the accessory muscles of inspiration and expiration are brought into play, and greater difficulty in both inspiration and expiration is experienced. Just as the patient seems at his worst the breathing gets gradually easier; with a paroxysm of coughing relief is obtained, and he sinks into a quiet sleep. On percussion, sometimes hyporesonance and sometimes hyperresonance are elicited. This is very variable. The liver and diaphragm are generally found low. On auscultation, a musical wheezing is heard all over the back and front of both lungs at the height of an attack. In milder attacks the wheezing may be limited to certain areas, and these areas change from time to time, showing the spasmodic condition of the bronchial muscles. The maximum wheezing is sometimes inspiratory, most often expiratory, sometimes both. Biermer thinks "that the bronchial muscle, in its

spasmodic contraction, may form a sphincter-like occlusion, more readily overcome in inspiration than expiration, and thus the escape of air from the pulmonary alveoli is prevented."

The blood, on examination, reveals an increase of eosinophile cells. There is usually expectoration towards the end of an attack. The secretion is scanty at first, viscid and mucoid, and often contains asthma spirals and Leyden's crystals. As expectoration increases, the spasm usually diminishes in intensity.

The Cause of Asthma.

The point I am desirous of making, and it is one which I think is universally held with regard to some cases, is that all cases of pure spasmodic asthma are due to some deviation from the normal on the part of one or both nasal fossæ; in fact, that some abnormal nasal condition is always the direct cause. This is the exciting cause, and behind this there is some predisposing cause which has not yet been determined, but with some may probably be found to be due to a want of balance on the part of some of the endocrinous glands. As bearing on this point, one often sees two cases with apparently the same abnormality. The one will exhibit asthma, the other will not. What is termed a diathesis is present in the one, while it is absent in the other.

As I said earlier, some think that asthma may be produced by the heart, the kidneys, the uterus or various other organs. But this can only happen if one or other of these organs affects the circulation in the nose reflexly. These organs can, under certain conditions, cause a marked turgescence of the vessels of the nasal fossæ, and consequently might set up an attack.

After this reflex cause had been at work for some time, the vaso-motor condition in the nose and the respiratory centre would become so sensitive that if the original offending organ were set right the asthma would still continue. I am not maintaining that any other organ than the nose enters into the cause of an attack of asthma, but it is a possible explanation of some cases.

Whatever the diathesis or predisposing cause may be, asthma can be cured by removing the exciting cause in the nose, and it is then found that no external condition, be it some other organ, e.g., the endocrinous glands, or a toxæmia, is capable of bringing on an attack. Cure the nose and you stop the asthma. After asthma has existed for many years, a condition of emphysema, accompanied often by chronic bronchitis, ensues, and these conditions often continue late in life, notwithstanding that the asthma has ceased. Earlier in life a good deal can be done to rectify both of these troubles.

Causes and Treatment.

As to the causes in the nose that produce this malady, they are many and varied. I shall describe a few of those most commonly met with.

(1) *Chronic Hypertrophic Rhinitis*.—In these cases the cavernous mucous membrane becomes turgescient to the extent of nearly filling one or other nasal fossa. Owing to the construction of one fossa being comparatively narrow, the erectile mucous membrane

covering the inferior turbinate body swells up and touches the septum at one point. This immediately starts an attack. On removing this portion of mucous membrane with scissors, the attack ceases. I shall have something to say later against the use of the cautery for this work. The patient may then, in a week or so, have another attack, and if he is seen at this time, another area of the covering of the inferior turbinate is noticed to be turgescient and touching the septum. This is dealt with and the attack ceases, and so on until all excitable areas that are liable to touch the septum have been removed. The patient then gets no more asthma. This work is tedious. A case of this sort may take six or nine months to cure. It would be quite easy to remove all the redundant tissue at one time, but, and I want to be very emphatic about this, the less tissue removed compatible with curing the case the better. We have all seen cases of *pharyngitis sicca* due to too clear a fairway having been made, often by the removal of the inferior turbinate body. These are very intractable cases. From this description it appears as if these cases could only be dealt with during an attack. This is not so. After some experience it is not difficult to determine the areas that are likely to be at fault, but even this takes time.

(2) *Asthma Spots, or, as Brugelmann terms them, Asthmogenic Points*.—These are hyperæsthetic nerve endings, and are sometimes very difficult to detect. They are roughly the size of a millet seed, sometimes darker, sometimes paler than the surrounding tissue. They occur in the region of the middle or inferior turbinate bodies, and may be eight or ten in number on one side. They must be removed, and it is often impossible to locate them, except during an attack.

(3) *Septal Spurs*.—A narrow nasal fossa, with a spine or spur of the septum touching the inferior turbinate body or a growth of bone from the turbinate, caused often by a chronic increased blood supply, touching the septum. These cases sometimes also cause severe reflex headaches.

(4) *Deviated Septum*.—A very narrow nasal fossa, caused by a deviated septum, in which, at times, opposing areas come in contact. These areas must be sought for and removed. They are most easily found during an attack. It is sometimes necessary to do a sub-mucous resection of the septum in these cases.

(5) *Oedematous Patches of Mucous Membrane on the Outer Wall of One or Both Fossæ*.—These patches become swollen and paler than the surrounding tissue, and are about half the size of a threepenny bit. They pour out a clear fluid and generally exist to the number of four or five. They must be sought for and removed.

Although in all these cases the mucous membrane is much deeper in colour than normal, after satisfactory treatment and the removal of the cause, that is to say, some months after, the membrane assumes a pale pink or normal colour. After healing and contraction have taken place, the mucous membrane seems to become bound down and altogether tighter, and incapable of becoming turgescient to the same extent as formerly.

It is not uncommon to get two or more of these causes associated in the same case. If, after treatment and the removal of the cause as far as can be determined, one area remains of increased colour, this area must be noted and watched, and in case of a future attack it will probably be found that this area is at fault.

(6) *Mucous Polypi*.—These are not a very common cause, but I have seen the two associated as cause and effect many times.

There are various other conditions, such as structural, developmental or traumatic obstructions and narrowings, in which opposing surfaces at times come in contact; some of them are easy to deal with, others are the reverse.

A word as to the use of cautery in the nose. However beneficial it may be in conditions unassociated with asthma, in cases of asthma in which it has been used it causes more difficulty than any other factor. In a case of asthma spots, if these get hidden underneath cautery scars, they are impossible to detect, and I often have to dissect out cautery marks, in the hope of removing a hidden spot or two. Cautery marks fade with age. A difficult case is thus often one that for some reason has been cauterized years before. The cautery, as generally applied, does not destroy these spots; or if it destroys some of the nerve endings, perhaps a neuroma forms underneath the scar. Whatever happens, the asthma still goes on, and, as I said above, these are very difficult cases.

The cautery can do nothing in the nose that cannot be done with other instruments, and, in my opinion, its use is unsurgical.

I have operated in over 500 cases, and although I have not been able to trace all the patients, in those whom I have traced, and who have not had an attack for 12 months after the conclusion of the treatment, the results are about 82% cured, provided that the cautery has not been previously applied. In the cases in which the cautery has been used the results are reduced to 64% cured.

I am confident that many of the remainder of both classes were curable, but some cases are very tedious, and the patients get to that stage where the attacks of asthma have ceased, but they get wheezy at times, mostly on exertion, with a sense of oppression on the chest. After what they have experienced, they are very satisfied with this condition and so do not return. I do not consider these cases cured.

I have never known a case relapse where the patient has not had an attack for twelve months after the conclusion of the treatment.

THE TREATMENT OF ECLAMPSIA.¹

By John Harris, M.D.,

Honorary Assistant Surgeon, Royal Hospital for Women,
Paddington.

The treatment of eclampsia which I am setting out in this paper is the actual method which I follow at the Royal Hospital for Women, Paddington.

This treatment is really an evolution arrived at by adopting any methods which were found to be use-

ful by my colleagues or myself and discarding those which, after a fair trial, were found to be of little value. Twelve years ago, when I joined the staff of the Hospital, the treatment then adopted was to dilate the cervix forcibly, whether the patient was in labour or not and to deliver the patient, with the usual accessories, opening the bowels, by subcutaneous injections of saline solution, etc. The death-rate was very high; it is still high. I am hopeful of receiving some suggestions to-night which will aid me to reduce this death-rate, and, at the same time, I hope to give you some suggestions which will be of value to you.

I propose to deal with (1) the treatment of threatened eclampsia and (2) the treatment of actual eclampsia, both *ante* and *post partum*. The treatment of *ante* and *post partum* cases is to a large extent the same.

The Treatment of Threatened Eclampsia.

In these cases, the treatment adopted is (1) Keeping the patient in bed; (2) keeping the bowels well open; (3) relieving the kidneys by getting the skin to act and applying hot packs over the kidneys; (4) milk diet.

Many cases of eclampsia could be avoided if the urine were examined at least once a month for the last three or four months of pregnancy, but it is generally too much trouble for the patient to have this carried out. We have a pre-maternity department at the Hospital, where all patients who are coming in or who are going to be attended by the district nurses are invited to come and bring samples of urine for examination. This has certainly diminished the number of cases among our own patients, but we are seldom without one case of eclampsia in the wards from outside. The great proportion of patients take no steps to avoid trouble, until the onset of convulsions renders their condition extremely grave.

The Treatment of Actual Eclampsia.

Eclampsia cases can generally be classed into two divisions: (1) obstructive, (2) toxæmic.

The obstructive cases include cases in patients who are in strong labour and the fœtus is prevented from advancing, on account of a large head and a small pelvis or some condition of the cervix which prevents it dilating, such as the scar of a repaired cervix. These patients, after delivery is over, seldom have any more fits and make uneventful recoveries.

The toxæmic cases may occur during labour or after it. The same treatment is applied in both cases, except that when labour is in progress assistance is given when the os is almost fully dilated. In both types of cases the patients suffer from convulsions or coma following convulsions. The prognosis in these patients is extremely grave, and vigorous treatment must be instituted at once. When a patient suffering from eclampsia is admitted to hospital, she is put to bed at once and placed on her side, to prevent mucus flowing down into her lungs, which are already œdematous. A padded gag is kept at the side of the bed, in case she should have another fit, and a special nurse is put on the case. Then, after the patient is cleaned up, the urine

¹ Read at a Meeting of the City Medical Association (Sydney) on April 20, 1916.

is drawn off by catheter with the usual precautions. This is measured and tested for albumin. If the patient is conscious and able to swallow, 3 ii. of Pulv. jalapæ co. or gr. v. of calomel are given by mouth, and large and copious enemata by the bowel, until the bowels are freely open. The bowels in these cases are generally very stubborn. If the patient is unconscious, two minims of croton oil are placed on the back of the tongue. Occasionally, when indicated, the stomach is washed out with warm bicarbonate of soda solution (5 i. to 0 i.). After the stomach is clean, 5 viii. of a concentrated solution of magnesium sulphate is run in. The opening of the bowels is, in my opinion, one of the most important points in the treatment of eclampsia. The urine is drawn off every four hours and tested, and an attempt is made to measure the amount passed. There is a difficulty in the early stages, as the patient frequently passes urine into the pan when her bowels are opened and some of the fluid present in the pan is probably due to the injections she has had.

The fits are controlled by the administration of hypodermic injections of morphine, gr. $\frac{1}{4}$. One of the difficulties of the case comes in here. The doctor who has seen the patient outside forgets to mention whether he has given morphine, and, if he does mention it, does not record the quantity given. House surgeons, I have found, are too ready to order an extra gr. $\frac{1}{6}$ or $\frac{1}{4}$ when a fresh fit is reported to them. I prefer to keep the quantity of morphine given as low as possible. I have an idea that, in many cases of eclampsia, the patients die from respiratory failure due to too much morphine.

The blood pressure is taken and recorded. The administration of veratrine generally lowers the pressure about 40-60 mm.

Lumbar puncture has been tried, but without any favourable results.

The pulse-rate is generally 120 to 140 a minute, and veratrine is administered (min. vii.), followed in a quarter of an hour by min. iv., and again in a quarter of an hour by min. iii. These injections are given hypodermically, and reduce the pulse-rate to about 60 a minute. If the practitioner is afraid that the pulse is going to stop altogether, a small injection of strychnine or ether will prevent any further slowing. The first time the action of veratrine is witnessed, the result is rather alarming. The dosage given above may be varied according to the size of the patient, and if the reaction is acute, the last dose may be omitted. After the administration of veratrine, I have noticed, in addition to the slowing of the pulse and lowering of the blood pressure, a distinct increase in the quantity of urine excreted.

To aid the kidneys, hot packs are applied. Personally, I prefer to place the whole body in a wet, hot blanket, and to wrap other blankets over it, to induce perspiration, the pulse being watched carefully.

Saline solution is given under the breasts in some cases, to induce the flow of urine, and in some cases the drop method, per rectum, is adopted, but the patients are generally too restless for this procedure. If the patient is cyanosed, I draw off a pint of blood from the median basilic vein and inject twelve

ounces of saline solution under the breast. For patients in labour, a good loss of blood at the separation of the placenta is very beneficial, but I am frequently disappointed with the small quantity of blood lost at this time.

Cæsarian section has not been performed by me in these cases, and I would hesitate to add the shock of a section to an already grave condition.

The anæsthetic used for purposes of delivery has of late years been ether.

The diet given when the patient is coming round is plain, sterile water, and, after a few days, milk.

When an infant is born alive of a patient who is suffering from eclampsia, it should not be put to the breast till about seven days after its birth, as we found that if it was put to the breast before it generally died, from the effects of either toxin or morphine absorbed from the mother.

During the last five years, 124 patients of eclampsia (ante and post partum) were admitted to the hospital. Of these, 20 patients died, giving a death-rate of 16%. This rate could easily be reduced if the patients were sent in earlier. Some of these patients were moribund when they arrived, and lived only from half an hour to less than twenty-four hours after admission.

A large number of cases in patients who were not in labour have been treated, as I have described, and have had their children at full time, without the slightest trace of the previous illness.

In conclusion, the points I would like to give especial prominence to are (1) Get the bowels open, (2) give veratrine, (3) get the skin and kidneys to act, (4) do not deliver patient if not in labour, but give aid in labour when nearing full dilation, and I am fully convinced that if the methods of treatment I have outlined are adopted vigorously at the onset of convulsions, the death-rate from eclampsia will be considerably diminished.

THE TUMBLING CUBES.

By Isaac Silverman, M.B., Ch.B. (Melb.),
Hospital for the Insane, Kew.

This optical deception is very well known, but, as far as I am aware, no explanation has ever been given of the varying judgements the observer makes of the perspective implied in the diagram.

If, on the shaded diagram, the eyes are carefully focussed on, say, the point A, then from there to the point B—these points are indicated in the clear diagram—and then these points focussed alternately at the rate of about a change every second, the black diamond, along whose diagonal AB the focus is moving, will be seen at one time as the top of a cube and the next second as the bottom of another cube. In this experiment, care is to be taken that the focus does not wander off the line AB, and the attention is to be given to this line.

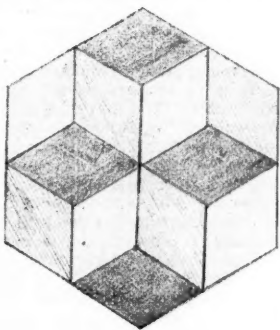
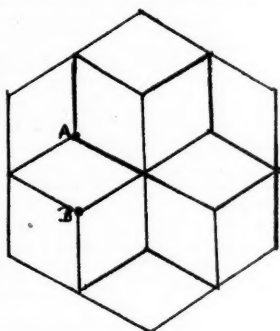
While the focus moves from B to A, A will be the distant point, and the interpretation will be one cube above two cubes. While the focus moves from A to B, B will be the distant point, and the interpretation will be two cubes above one cube.

The explanation is probably that, in any new field of vision, the eyes tend to be focussed at once on the most illuminated or striking point and to look from there to less illuminated or striking points in the field. Moving the focus from B to A presupposes that B is better illuminated than A, and so is more prominent, and the interpretation is one cube above two cubes. Moving the focus from A to B presupposes that A is the more illuminated, and, consequently, more prominent; the interpretation is therefore two cubes above one cube.

The changed interpretation would not be due to changed accommodation, as all parts of the picture are equidistant from the eye.

It will be noticed that if the visual axis be kept on the line and the attention be given to the peripheral field of vision, as in using the perimeter, that the interpretation may be changed at will. In this case the attention is given to the point or points that become most prominent in the new interpretation.

Of course, the line AB is only one of any in the diagram that can be used.



Reports of Cases.

STRANGULATED FEMORAL HERNIA, COMPLICATED BY RUPTURED ECTOPIC GESTATION.¹

By Eric Jeffrey, M.A., M.B., Ch.M.,
Assistant Superintendent, Sydney Hospital.

A.P., 21 years, single, a saleswoman, was admitted to Sydney Hospital on April 20, 1916, with the following history:—

She had suffered for two years with a swelling in the right groin. This had caused her slight intermittent discomfort, but no actual acute pain. On April 16, 1916, she took a large dose of oil. Next day the swelling in the groin suddenly became increased in size, till it was as large as a hen's egg, and very painful. The patient also began to vomit. This state of affairs continued until April 19, three days later, during which time the patient passed neither flatus nor feces. On the evening of the 19th, Dr. George Bell was called in, and with difficulty reduced a strangulated femoral hernia; on reduction, pain and vomiting immediately ceased.

Operation was undertaken next day by Dr. Bell. Dr. Braby administering the anæsthetic. The hernial sac was defined and opened in the usual way; on opening it, however, dark fluid blood flowed out. This was at first thought to be the result of the bowel injury, but seemed rather too

profuse to be explained in this manner. A pair of Howard Kelly's passed through the crural canal and opened, let out much more blood, and clearly proved the bleeding to have an intraperitoneal origin. Laparotomy was immediately undertaken. On incising the peritoneum, a considerable amount of blood was seen in the abdominal cavity; a suspicion of ectopic gestation was at once entertained, and an examination of the left Fallopian tube showed it to be correct. The tube contained in its ampulla a gestation sac of about six weeks' duration, with a small opening where it had ruptured into the peritoneum. Salpingectomy was performed. The abdomen was swabbed clean of blood, and the bowel examined. A portion of damaged small intestine was seen, which had evidently been nipped in a Richter's hernia. For safety, this was sewn over with a Lembert suture, and then the abdomen was closed in the usual way. Recovery was uneventful and rapid.

No suspicion of ectopic gestation was held before operation, as the patient was not blanched, and the pulse-rate was only 104. It rose to 124 after operation, and then gradually sank to normal. The colour of the blood, which was very dark, however, showed that the rupture had occurred before operation.

An inquiry into the menstrual history of the patient after operation showed that her period was about a fortnight overdue, and that, although she was irregular, the interval had never been so long before.

It is by kind permission of Dr. Bell that I am enabled to publish these notes.

THREE CASES OF AN ACUTE ABDOMINAL AFFECTION DUE TO HÆMORRHAGE FROM A RUPTURED CORPUS LUTEUM.¹

FIRST CASE.

By T. W. Lipscomb, M.B., Ch.M.,
Sydney.

Mrs. L., 25 years of age, was taken ill suddenly on the evening of April 12, 1916, about one hour after a dinner of roast meat, peas, beans and potatoes. The pain was of a colicky nature, and made her feel faint. She vomited. Later the acute pain was relieved, but she still complained of some pain and of the abdomen being very tender. Dr. Cosh, her medical adviser, was sent for, and when he saw her at 11 p.m. he found her pale, somewhat collapsed, with a temperature of 99.4° F., a pulse-rate of 100 and a moist tongue. Her abdomen was tender all over, especially in the region of the right iliac fossa. He took her in his car to a private hospital. I saw her with him at midnight. In spite of the drive and the effect of another doctor seeing her in consultation, the pulse-rate had decreased to 92 and, as her general condition was good, we decided to wait events and to see her again next morning.

We saw her at 10 a.m. on April 13. She had had a moderate amount of sleep; her general condition was good, and there had been no vomiting. There was still some tenderness over the lower half of the abdomen, but this was not marked. It was slightly more distinct on the right side. Dr. Cosh attempted to make a vaginal examination, but failed. The patient had been married for 12 months, but there was a tough fibrous hymen, which had not been ruptured by coitus. The temperature was 99° and the pulse-rate 90. We felt sure that there was some pathological condition in the lower abdomen, but the patient's husband had to be assured definitely that she had a sharp attack of appendicitis, and that the condition might get worse at any time before he would consent to an operation.

An anæsthetic was administered and the hymen was first broken down. The uterus was found to be in good position and freely moveable. As she had a certain amount of dysmenorrhœa the cervix was dilated and the uterus was curetted. The abdomen was then opened. A large amount of blood was found free in the peritoneal cavity. I estimated the quantity of blood at a quart. After the blood had been cleared out, the cause was sought and was found to be a small cyst about the size of a boy's marble in the left ovary. I took it to be a particularly vascular

¹ Read at a Meeting of the New South Wales Branch of the British Medical Association on June 9, 1916.

¹ Read at a Meeting of the New South Wales Branch of the British Medical Association on June 9, 1916.

lining to a ruptured *corpus luteum*. The ovary was resected, in order that the cyst might be removed completely. The tube was normal and the right tube and ovary were also healthy.

The appendix was curled up and embedded in a developmental membrane. It was removed, but was not the seat of any acute inflammation. The patient made an uninterrupted recovery.

SECOND CASE.

By St. John W. Dansey, M.B., Ch.M.,
Honorary Assistant Surgeon, Royal Prince Alfred Hospital,
Sydney.

Miss D.G., aged 21 years, was seized on the morning of April 9, 1915, with acute abdominal pain after straining at stool. The pains had become much worse, and were definitely colicky in type. They were aggravated by movements. There was no vomiting. The bowels were constipated.

On examination, the temperature was found to be 100.8° F. and the pulse-rate 120. There was an anxious expression, and the face was pale. The abdomen was acutely tender in the region of the right iliac region. On vaginal examination tenderness was detected in the right fornix. The uterus was anteverted.

The abdomen was opened in the appendiceal region under ether anaesthesia. The peritoneal cavity was found to be full of bright blood. A second incision was made in the mid line. Both ovaries were found to be ruptured and bleeding. The right organ was cystic. The whole of the left ovary and tube and part of the right ovary were excised. The right tube was left. The appendix was found to be normal. The patient made a good recovery and was well a week later.

Professor D. A. Welsh reported that both ovaries showed recent *corpora lutea* with hæmorrhages. Both contained numerous simple cysts of Graafian follicles. In the right ovary the *corpus luteum* was the larger, and contained a great mass of recently extravasated blood, forming a blood cyst. In the left ovary there was a recent hæmorrhage in the *corpus luteum* and in the ovarian tissue immediately around it. The vessels were greatly dilated in this situation.

THIRD CASE.

By Harold Browne, M.R.C.S. (Eng.), L.R.C.P. (Lond.),
Sydney.

Miss P., æt. 22 years, was seen by me on September 18, 1912. She was suffering from symptoms pointing to a severe attack of appendicitis, including high fever, profuse vomiting, and well-marked tenderness in the right iliac fossa. As her condition did not improve, she was removed to a private hospital for operation.

The abdomen was opened by the usual incision for the removal of the appendix. The belly was found to be full of thin, dark blood. After the greater part of the blood had been mopped out, the puzzle was to find the source of the hæmorrhage. The omentum was infiltrated and adherent in masses in Douglas' pouch, more particularly on the left side. Many of the soft adhesions were cleared away, and the right ovary and tube were examined and found to be normal. The left ovary was enlarged and of a darker colour than usual. On its posterior aspect there was a small dark cyst closed by clot. This was evidently the source of the hæmorrhage. There was no oozing at the time. The appendix was kinked and bound down by recently formed adhesions. It was removed. A final inspection of the left ovary reassured me that there was no fresh bleeding. A long rubber tube, with a wick drain, was therefore inserted down into Douglas' pouch. There was much sero-sanguineous discharge for several days. The after progress was uneventful, and the patient went home in a month's time with a well-healed wound, though still very weak from loss of blood.

It may be stated that the incision over the appendix was enlarged, to enable the left ovary to be reached. This was considered to be safer than to subject the patient, already

weakened by the loss of so much blood, to a second incision in the middle line.

This case appears to be one of hæmorrhage from a ruptured cyst of the *corpus luteum*. No other source of hæmorrhage than the small dark spot in the ovary was discovered.

Reviews.

MEDICINE.

In these strenuous times it is highly desirable both for senior medical students and for busy practitioners to have a general survey of internal medicine brought within a small compass.

This has been very successfully accomplished in Wheeler's "Handbook of Medicine" (fifth edition).¹ It can be confidently recommended as being thoroughly sound and up-to-date. Systematic medicine is brought into survey in a compact form; individual chapters can scarcely be further summarized. The sentences are clear and concise and eminently readable. Superfluous material is omitted, and discussion on immature theories left out. However, recent work of substantial merit has been incorporated. References to such advances as the use of hypertonic intravenous saline in cholera, and emetine in amœbic dysentery are included. The luetin reaction in syphilis is described and stated to be less constant than the Wassermann reaction in primary and secondary syphilis, but much more often positive in tertiary, latent and congenital syphilis and in parasyphilis. The importance of nutritive substances, named "vitamines" by Funk, are mentioned under the causation and treatment of beri-beri.

Graphic methods for investigation of heart diseases receive consideration—necessarily short in a small book.

The value of artificial pneumo-thorax, by the introduction of nitrogen into the pleural cavity, in selected cases of pulmonary tuberculosis, is indicated.

It is a matter for regret that the variation in type of such common diseases as enteric fever, rheumatic fever and cerebro-spinal fever is not allotted more space. The clinical pictures given are those of the severe, well-defined cases, which are admitted to the wards of any busy hospital. These are not the cases that give rise to difficulties of diagnosis. It is the milder and often atypical types which may be just as great a danger to a community and may lead to disabilities in the individual quite as marked as follow the severe forms. The student receives inadequate instruction in these cases, because they are not sent into hospital, and text-books are largely compiled from hospital statistics and experiences. As an example of this, it may be pointed out that typhoid fever, with constipation instead of diarrhoea, receives no mention in the description of the disease. Under rheumatic fever no space is given to the milder manifestations so very common in children. When recurrent, these manifestations often lead to widespread mischief in the heart. Similarly with cerebro-spinal fever, the milder cases, simulating influenza, and other abortive types are not described.

Apart from these criticisms, we have nothing but praise for this handbook. The Australian medical student, in particular, will find it highly useful in preparing for his medical examinations. It will give him a sound groundwork for wider reading.

THE PROSECUTION OF A "MENINGITIS CONTACT."

In the issue of July 1, 1916, we recorded the first prosecution under the new regulations for contacts and carriers of meningitis in Victoria. We have been informed officially that the defendant was apprehended by order of the town of Port Melbourne Council, and was compelled to undergo quarantine treatment. After his release from quarantine, the prosecution was launched. We congratulate the Council for its thoroughness.

¹ Wheeler's Handbook of Medicine, by William R. Jack, B.Sc., M.D., F.R.F.P.S.G., Fifth Edition, 1916, Edinburgh; E. & S. Livingstone; pp. 551; Crown 8vo. Price, 8s.

The Medical Journal of Australia.

SATURDAY, JULY 22, 1916.

The Wastage from Incompleteness.

We have pointed out on several occasions that the absence of an organized system of orthopædic treatment in the Australian Army Medical Service has led and is still leading to a great economic loss, both to the military strength of the Empire and also to the earning capacity of the community. The latest figures of the Base Records Office show that 42,022 men and nurses belonging to the Australian Imperial Forces have been put out of action. Of this number, 8,432 are dead and 9,811 have been wounded. From a military point of view, the institution of prompt and efficient treatment resulting in the return of a percentage of the wounded to the fighting-line would be a greater gain than the enlistment of an equal number of recruits. The wounded man has had a period of training and has experienced the real thing, and is consequently a more efficient soldier than the recruit before his baptism of fire. Injuries requiring orthopædic treatment, however, are not the only, and are probably not the most frequent, causes of incapacity in the field. Dr. A. W. Campbell, in an irresistible speech, delivered at a supper given by the Manly members of the Northern Suburbs Medical Association on July 15, 1916, has directed attention to another source of military wastage. In the course of his utterances, he recounted five lessons which he, as a neurologist, had learned during his term of service at a base hospital. Four of these concern the scientist, and are that an apparently insignificant wound of the scalp and skull may lead to the most serious consequences, that spinal concussion actually results from the sudden increase of atmospheric pressure caused by the explosion of a modern shell, that injuries of

peripheral nerves causing a complete disturbance of function is of frequent occurrence, and, finally, that functional disturbances, including so-called shell-shock, are exceedingly common. Dr. Campbell dwelt on the fact that the patients in the last category included many exaggerators, but very few malingerers. The fifth lesson was that the services of expert neurologists should be engaged by the authorities to institute at an early date suitable treatment for the soldiers suffering from these functional derangements, in order that they might be able to return to the firing-line as soon as possible. The members of the *Société Névrologique* had approached the French Government, had offered their services and had been accepted. No less than 5,000 beds were at present available for these cases. These beds were distributed over five hospitals, in each of which expert and often eminent physicians were serving.

In the case of maiming wounds of the extremities, the timely intervention of the orthopædic surgeon improves the chances of useful limbs being restored to the possessor. In other words, this form of treatment effects a rescuing of the utility of the individual and a restoration of his power to earn a living in civil life. The intervention of the neurologist in these cases of functional affections following exposure to shell fire has also a considerable significance for the man in his after life. The chief reason for the organization of a neurological branch of the army medical service is undoubtedly that the soldier may be able to return to his unit. Several observers have recorded that, after an attack of "shell shock," men are rarely able to stand the strain and that relapses are very common. All agree that mutism, deafness, hysterical blindness, and the various paralyses associated with these cases are very difficult to treat. The more expert the neurologist, the more rapid and the more complete is the removal of the symptom. The followers of Liébeault and the other masters of the Nancy school of suggestion and those who have experience of the Salpêtrière will no doubt take care that their treatment of this condition includes the suggestion that it will not return. How far such a suggestive influence will succeed remains to be proved. But there is no doubt

that these functional conditions are as Babinski terms them *troubles pithiatiques*. The important point, however, is that it requires a trained neurologist to apply persuasion to effect the cure.

HOME PRODUCTION OF DRUGS.

Our London correspondent has called attention in the issue of July 8, 1916, to the fact that a new drug industry has been established in England, as the result of the conditions of war. Drugs which are derived from coal tar combustion products are being manufactured, albeit in comparatively small quantities. He expressed the hope that when the raw material becomes freely available, drugs, such as salicylic acid, phenacetin, phenozone and the like, will be produced at a price approaching that at which they were sold by German manufacturers before the outbreak of war.

In Australia, a drug industry is also arising. It is true that it is in its infancy, but it has come to stay and to increase. Some of the firms which produce Australian-made drugs plead that many drugs in relatively great demand cannot be produced in this country because the cost of installing the necessary plant is too great to admit of the drugs being sold at a reasonable price and a profit accruing. In other words, the suggestion put forward is that the demand for many drugs in the Commonwealth does not justify the expenditure on elaborate plant. The fallacy of this argument is apparent when the peculiar conditions of the present day are considered. Hitherto, a large proportion of the drugs supplied for use has been of German origin. In future, the German market is to be closed to Australia. The demand exists, even if it is comparatively small at present. But this demand will certainly increase rapidly in the course of a few years, as the population of the Commonwealth increases. In order to exclude the German manufacturer, a market that can be relied on must be found elsewhere, and in the present uncertainty of industrial conditions, we cannot be sure that such a market will exist. Why not create it? Enterprise is required. Australians have shown great enterprise in the past. It may be urged that labour is too expensive to give promise of a prosperous industry. But material is plentiful, and if the ready-made drug is to be imported from

Europe, the freight must be added to the cost of production. Moreover, recent experience has taught that the Australian buyer will willingly pay a slightly higher price for home-made goods.

Ether is made here, and finds a ready sale. Various antiseptics, antipyretics and other drugs are produced within the Commonwealth. Why not the majority of the pharmacopœal preparations? We are convinced that the medical profession will give preference to Australian-made drugs, provided that their purity and pharmacological activity are assured. Many of the preparations advertised in this journal are made in Australia, and we appeal to the sound judgement and good sense of Australian practitioners to give these preparations the preference over others, provided that experience tells them that these articles are at least as valuable as those they are intended to replace. The opportunity for a prosperous and extensive Australian drug industry is ripe. The manufacturer is not asked to make a financial sacrifice from a sense of patriotism. He is asked to dare something to gain much.

THE CAUSES OF INVALIDITY.

In another column we publish a summary of the contents of a pamphlet compiled by the Director of Quarantine and issued as a "Service Publication." The pamphlet is short, but its matter is full of interest, and will require the careful consideration of the medical profession throughout the Commonwealth. It should be discussed, not as a single entity, but as if it were two separate documents. The first subject deals with the results of Dr. Cumpston's investigations and to this we wish to direct attention at present. The second has concern with the remedy suggested; this remedy is none other than the introduction of a comprehensive scheme of national insurance. Since the opinion has been expressed in this journal on more than one occasion that national insurance should be resisted by the medical profession unless and until a real necessity for its introduction has been demonstrated, it is held to be advisable to examine the fundamental facts on which Dr. Cumpston bases his recommendation before the question is raised whether a justification exists and whether national insurance would remedy the ills calling for removal.

Within a span of time of $4\frac{3}{4}$ years, no less than 27,500 persons were rendered incapable of earning their living on account of some disease or accident, not brought about with a view to obtaining the pension and not self-induced. From the list of diseases leading to this invalidity, it would appear that the latter limitation is not interpreted to mean diseases brought by the individual's own fault, since syphilis is a common cause. The frequency of in-

validity is surprisingly great. No record is given of the number of pensioners who have died during the course of the period, but if the numbers be taken as they stand, it would mean that the proportion of persons without means who are unable to earn a living is approximately $\frac{1}{2}\%$ of the total population. It would obviously be unwarranted to divide the number by $\frac{3}{4}$ to arrive at the annual frequency of pensions, since the majority continue to receive their pensions for a succession of years. From a prophylactic point of view, the persons who are paid invalidity pensions on account of senility may be removed from the list. This would reduce the number by 1,367. A further 1,551 may be regarded as coming outside the scope of the special problem involved, since these individuals are already provided for. These are the insanity and the congenital imbecility cases. The number thus is reduced to about 24,500. Even this is a surprisingly high number.

Keeping in mind the remedy suggested, it is important to regard the causes affecting persons under 40 years of age. There have been 6,519 pensions granted to these people. The chief causes in this group are pulmonary tuberculosis and miners' phthisis (these affections are not separated), congenital imbecility, epilepsy, rheumatism, hemiplegia, diseases of the circulatory system, defective visions (including blindness) and accident. These represent about 77% of the total. It is quite true that tuberculosis, syphilis and gonorrhœa may cause these conditions in many instances, and to the three infections a fourth, rheumatism, might well be added. What are the prospects of good accruing from the general application of preventive measures directed toward these infections? The history of British hygiene gives the reply at once as far as tubercular infections are concerned. Improved housing conditions, lessened poverty, and a reduction in alcoholic excess have contributed largely to the reduction in the tubercular morbidity and mortality. The prevention of venereal diseases is still a quicksand. We do not know whether these diseases can be controlled by legislative or other means. So far, all attempts to achieve this end have been dismal failures. In regard to the fourth disease, rheumatism, the future may reveal methods of checking the infection and controlling the susceptibility to it. But it must be remembered that the chronic joint affections included in the list of causes of invalidity and labelled "rheumatism" embrace a number of other affections, the pathology of which is varied. In the next place, it may be well to consider whether the institution of skilled treatment at an early stage is likely to result in an appreciable reduction in the number of claimants for pensions. At the present time, much good is being done by the early institution of the treatment of tuberculosis. While more could be achieved in this direction, the means at our disposal are not of a sufficiently specific character to justify the contention that the disease once manifest could be checked or arrested in a considerable proportion of cases. The efficacy of antisiphilitic and antigonorrhœal treatment is not to be doubted. What is required is to enforce the treatment early in all cases. Whether the Western Australian Act or any similar

legislation will achieve this end remains to be seen. In the last place, suitable treatment is of great value in rheumatism, but it may be said that the vast majority of sufferers apply to registered medical practitioners in the early stages of true rheumatism. The story is quite different in the case of rheumatoid arthritis.

It may therefore be said that much of the invalidity for which pensions are paid within the Commonwealth can be prevented, ameliorated or postponed by the adoption of suitable measures. In a future issue the machinery for applying these measures will be considered and the suggested remedy of compulsory national insurance will be contrasted with other means of attaining the same end.

THE MATERNITY BONUS.

On July 8, 1916, it was pointed out in this place that the number of claims made and of claims paid for the £5 maternity bonus in Victoria exceeded the number of births registered during the past financial year. We learn that the analysis created some uneasiness in official circles, and that an investigation was set afoot in all the offices concerned to discover the reason for the excess. This investigation led to the discovery that in the returns of the births still-births are not included, whereas bonuses are paid in respect of every pregnancy which continues until the fœtus is viable. Another explanation has been put forward. This is that the claims paid in any given year do not necessarily coincide with the births registered in the same year. This however does not account for the discrepancy.

The explanation that still-births are included is on a different footing. Unfortunately, there are no official figures available indicating the number of pregnancies which last until the fœtus becomes viable. It is improbable that the officials concerned in compiling the returns have any idea of the number of claims made for bonuses in respect of dead children. During the year ending June 30, 1915, 36,389 claims were received in Victoria. The number of births registered during the same period was 35,994. If the latter figure is not exact enough for the officials, we can include the number of births registered during the five quarters ending June 30, 1915, and calculate on the averaged figure for four quarters. It would therefore appear as if every woman who had born a child alive, and, in addition, 395 women who had born dead fœtuses, had made a claim. But we learn that 110 of the claimants were refused a bonus on one of the various grounds quoted in our article. Of this number, 50 should be deducted from the number of women who gave birth to living children; since in this number the claims were refused to women whose infants were registered during the year. The figure representing these unexplained bonuses is therefore not less than 445. If some women did not claim the bonus, the figure would be still further increased. It is possible that the number of miscarriages and of still-births of full term infants may have reached this total. But the uncertainty in respect of the actual numbers is highly unsatisfactory.

Abstracts from Current Medical Literature.

PATHOLOGY.

(23) Rapid Differentiation of the Bacilli of the Eberth-Coli Group.

A. Ch. Hollande and J. Beaverie have tested the use of four prepared papers for placing in media to identify the *bacillus typhosus*, the paratyphoid bacilli A and B and the *bacillus coli communis* (C.R. Soc. Biol., Paris, December, 1915). These papers are dipped in certain reagents, dried and treated with a solution of collodion in alcohol and ether. They are again dried. The first reagent employed is 1% aqueous solution of silver nitrate. This paper must be kept in the dark. The second reagent is a mixture of equal parts of 1% solution of neutral red with 10% glucose. The third reagent is a 10% solution of subacetate of lead. The fourth reagent is a mixture of tournesol-orcein, neutral phosphate of soda, lactose and bicarbonate of soda dissolved in water. The papers are used by dropping 3 sq. cm. of each paper into four separate broth tubes, which are sterilized in the autoclave and inoculated with the organisms. The interpretation of the use of the papers is as follows: The silver nitrate paper inhibits the growth of the *bacillus typhosus* and paratyphoid germs for many hours. The colon bacilli produce a visible growth in 12 hours. The other organisms do not show a visible opalescence in less than 48 hours. The neutral red paper is not decolorized by the *bacillus typhosus*, nor do bubbles of gas form beneath the collodion. With the remaining three organisms the paper turns pale yellow and floats, as a result of the separation of bubbles of gas beneath the collodion. The results are evident in 24 hours. The acetate of lead papers are blackened in 20 hours by the growth of all the microbes except the paratyphoid A bacillus. The fourth paper serves to confirm the diagnosis of the paratyphoid B group. After sterilization, the medium is coloured a pale violet. When inoculated with these organisms, the colour is discharged, but after 72 hours it returns in the case of the paratyphoid B group.

A. Ch. Hollande and J. Gate have used milk treated with ether as a medium for the growth of colon typhoid and paratyphoid organisms (C.R. Soc. Biol., Paris, December, 1915). Milk treated with ether has the same cultural properties as whole milk. It has, however, certain advantages consequent on the absence of fats. Oxygen is readily dissolved and the tubes keep for weeks after sterilization. The coagulation that occurs with certain germs is more readily observed. When coloured with neutral red it is of use in the differentiation of the bacilli of the Eberth-Coli group. The treatment is carried out by spinning milk in a centrifuge to remove the bulk of the

fats, by heating to 45° C., and extracting with an equal quantity of ether. The milk is syphoned off after standing and freed from ether by blowing. It is then sterilized in the autoclave.

(24) Gaseous Gangrene After Ligature of the Main Artery.

M. Weinberg and P. Seguin give the histories of two cases of gaseous gangrene occurring after ligature of the principal artery of the hind limb (C.R. Soc. Biol., Paris, December, 1915). The cases are of interest since bacteriological examinations have been made before and after the operations. In the first case, the patient was a soldier admitted to hospital 48 hours after a wound of the knee. The wound appeared to be superficial, situated at the back of the leg. While it was being cleaned, a clot was displaced from the popliteal artery. Severe hæmorrhage occurred. Ligature of the artery was required. Thirty-six hours later, gaseous gangrene had developed. This necessitated amputation through the thigh. A bacteriological examination before the first operation revealed the presence of cocci and a mobile sporulating bacillus. Gram-positive bacilli were present. These were identified as the *bacillus perfringens*. When the gangrene had developed, the tissues were studied with the bacillus of malignant œdema and the *bacillus perfringens*. Blood cultures made at the time of the operation were negative. The second patient was admitted to hospital eleven days after being wounded. He showed a superficial wound on the inner surface of the thigh. Some days later the pulsations of an aneurysm were noted beneath the wound. The femoral artery was tied at the crural arch and the aneurysm removed. Gangrene supervened, which became of the gaseous type after 72 hours. The patient died. Bacteriological examination of the wound on admission to hospital revealed the presence of diplococci and some Gram-positive bacilli. These latter were not numerous. At the time of the operation the same microbes were found in the wound. Blood cultures made at this same time yielded pure cultures of the *bacillus perfringens*. When the moist gangrene had supervened, the tissues of the leg were found teeming with this bacillus. The authors advise awaiting the results of bacteriological examinations before carrying out surgical proceedings. They consider that the operation would have been postponed in the second patient if the surgeon had been aware of the presence of the bacilli in the blood.

(25) Hydatids of the Pericardium.

F. Dévé (C.R. Soc. Biol., Paris, December, 1915) describes the characters of secondary hydatid disease of the pericardium. This condition is produced by the rupture of a primary hydatid cyst and the dissemination of the echinococci in the serous membrane of the pericardium. A cyst of the liver or of the lung may be the initial condition, but cysts of the heart are more common. Secondary infec-

tion of the pericardium occurs in about 10% of cases of cardiac hydatid disease. Anatomically, these lesions present the characters of multiple cysts, of approximately equal size, lying superficially beneath the serous membrane. The cysts are invariably accompanied by signs of more or less generalized chronic adhesive pericarditis. The cysts tend to spread towards the inner surface of the heart, and even to rupture through the endocardium. The effects of the rupture into the cavities of the heart are various. Death may occur suddenly or rapidly from syncope, hydatid intoxication or acute asystole. Death may result more slowly from embolism. When the patient survives secondary metastatic cysts may develop in the lungs, brain or kidneys.

(26) Differentiation of Typhoid and Paratyphoid Bacilli.

E. Burnet and R. J. Weissenbach have used agar containing acetate of lead for the diagnosis of the organism from 517 cases of suspected enteric fever (C.R. Soc. Biol., Paris, November, 1915). The typhoid bacillus and the paratyphoid bacillus blacken the medium, while the paratyphoid bacillus A does not do so. The organisms are first obtained by blood cultures. They are then inoculated on to glucose agar containing neutral red, and on to the special medium. The *bacillus typhosus* is recognized by the absence of gas on the glucose medium. The paratyphoid bacilli produce gas. The two kinds are then separated by the medium containing acetate of lead. The results have been confirmed by an exhaustive series of agglutination tests.

(27) *Sporotrichum beurmanni* on Wheat.

A. Sartory relates how a herbalist of Nancy brought to him an ear of wheat collected by himself (C.R. Soc. Biol., Paris, December, 1915). The herbalist thought that the awn was covered with rust. He wished the species of the parasite determined. Microscopic examination showed that the parasite was a fungus of the genus *Sporotrichum*. The fungus grew freely on agar and on glucose agar. The mould was readily obtained in pure culture. It has been examined in great detail, and has been identified as *Sporotrichum beurmanni*, which has previously been known as a parasite infesting the human subject. The pathogenicity of this parasite was tested on the rat. At first of low virulence, the parasite attained, after several transmissions, a high degree of toxicity. Septicæmia occurred rapidly after inoculation with the fungus of enhanced toxicity.

(28) Leech in the Nasal Cavity.

S. F. Harmer describes a leech, *Limnatis nilotica*, removed from the nasal cavity of a soldier wounded at the Dardanelles (Journ. Royal Naval Medical Service, January, 1916). The patient had been admitted to hospital for shrapnel wounds. Two days later he complained of bleeding from the nose, headache and

pains in the stomach. The diagnosis of enteric fever was made and he was sent to England. He was found to be suffering from double tertian ague. Three days after admission to hospital in England the leech was noted in the nose and removed. The leech proved to belong to the species found in the countries around the Mediterranean, which has been known from time immemorial to effect an entrance into the pharynx and larynx of men and the domestic animals. The army of Napoleon suffered severely from the ravages of this leech on its return journey from Syria to Egypt. The leech dwells in pools of fresh water and in wells. Its entrance to the human body occurs through the drinking of infected water. The water should be filtered or strained through fine muslin in districts where the leech is common. The leech has the same diameter as horse-hair when not distended with blood. When distended it is as large as the medicinal leech. Its removal is often difficult, but it will release its hold if it be treated with a strong solution of cocaine.

PÆDIATRICS.

(29) Luetin Reaction in Congenital Syphilis.

The Noguchi test consists in injecting equal amounts of normal saline and luetin (sterile emulsion of *Treponema pallidum*) into the epidermis of the arm. A syringe graduated into one-hundredths of a cubic centimetre is used, and 0.07 c.cm. of the mixture is injected intradermally after a preliminary skin cleansing with alcohol or alcoholic biniodide solution. A successful injection will produce a white bleb, increasing in size with the increase in fluid, and subsiding in from five to ten minutes. A control with normal saline is advisable. A negative reaction may assume one of three forms: (1) normal appearance of the skin, without any signs at the site of injection; (2) an area of erythema, which disappears in a day or two; (3) a small papule which develops in from 24 to 72 hours, and then subsides, leaving at times a yellowish pigmentation of the skin. The papule is not surrounded by any area of induration. The positive reaction is also seen in three forms: (1) Papule—a large red indurated papule, surrounded by an area of erythema, appears in from 24 to 72 hours, gradually increases in intensity and begins to fade by the seventh day. Occasionally a purplish macule persists for a long period. (2) Pustule—this follows the course of the papular form for about four days, when a depression is seen and a pustule forms. The pustule ruptures in a few days, and the area becomes covered by a crust, which falls off in a short time. (3) Torpid form—not seen as frequently as the other two. It is interpreted as a negative reaction for the first few days, but instead of remaining so, it assumes a papular or pustular form on the seventh or eighth day. Wishing to test the value of the reaction in con-

genital syphilis and its significance in children, Jordon (*Arch. of Pediatrics*, March, 1916) studied 22 cases of congenital syphilis tested with luetin. No Wassermann test was performed, and the diagnosis of congenital syphilis was made in each case on the strength of the history, clinical findings and therapeutic tests. Of the 22 cases, 18, or 81%, gave a positive reaction—papular in 13, pustular in 3, and torpid in 2. No positive results appeared in children under six months of age. Of two cases of congenital syphilis of the third generation, one gave a positive, the other a negative reaction, the mother giving a positive reaction. Eight children yielding positive reactions were mental defectives. Of 23 non-syphilitic consumptive children also tested, only one, with a possible paternal history, gave a positive reaction. Of the remaining 22, all had control saline injections; 14 gave negative results with both test and control; 8 cases gave a reaction to both luetin and control, two giving an erythema and six a papule, which disappeared within 48 hours. This reaction to control injections suggests that the hypersensitiveness of the skin to trauma, present in many syphilitics, may also occur in cases of tuberculosis.

(30) Sialolithiasis and Sialodochitis in Childhood.

Calculi of the salivary apparatus are found most frequently in the excretory ducts, especially Wharton's duct, while the submaxillary gland is the most common seat of the gland stones. The calculus in either situation causes inflammatory and sclerotic changes in the gland. Sialolithiasis, according to the majority of observers, results primarily from bacterial invasion, though some consider that duct swelling, with retention and inspersion of saliva, is primary and the bacterial invasion secondary. Symptoms of duct stone are usually more severe and well defined than those of gland stone. There are usually two periods, characterized by (1) intermittent attacks of pain on the affected side, with coincident appearance of a sensitive salivary swelling, the mass being tense and firm; (2) suppuration, with muco-purulent discharge from a red and swollen duct orifice. Abscesses may develop, with burrowing of the pus. A duct stone can usually be felt by probing the canal. Confusion may occur in diagnosis with alveolar periostitis, cervical adenitis, Ludwig's angina, tuberculosis, gumma and malignant disease of the gland. In children, the symptoms are usually not so severe as in adults. Surgical treatment is simple and efficacious. Two varieties of sialodochitis have been described, but rarely observed, in children. One *sialodochitis fibrinosa* of Kussmaul is characterized by sudden and recurrent attacks of duct obstruction caused by fibrin plugs. The condition is rare, very chronic, affects Stenson's ducts usually and is generally bilateral. The second type is practically identical with the first, except for the absence of duct plugs. Neuhof (*Amer. Journ. of Diseases of*

Children, March, 1916) describes a new type of the disease, characterized by a cicatricial stenosis of one Stenson's duct (the opposite one being normal), the result of inflammation of unknown origin, by a firm, nodular enlargement of the corresponding parotid gland, by a tendency to recurrence after slitting the mouth of the duct, but ultimate cure after the stenosis has been permanently overcome. The condition can be readily mistaken for sarcoma or mixed tumour of the parotid. The gland is considerably increased in size, firm, nodular and adherent; the orifice and buccal end of the duct are embedded in stenosing cicatricial tissue. Cure follows promptly on excising the diseased end of the duct.

(31) Types of Hydrocephalus.

Frazier (*Amer. Journ. of Diseases of Children*, February, 1916) prefers to classify cases of hydrocephalus into the obstructive, the non-absorptive, the hypersecretive and the occult types. (1) In *hydrocephalus obstructivus* there is a mechanical obstruction to the natural drainage of the cerebro-spinal fluid from one or more ventricles into the sub-arachnoid space, where absorption occurs. This obstruction may be congenital or acquired. (2) In *hydrocephalus non absorptus*, absorption is delayed or defective. This is due (a) to the obliteration of part of the sub-arachnoid space by adhesions; (b) to a toxic substance in the fluid, which prevents absorption by the venous channels; (c) to a possible abnormal condition of the agents which transport the fluid to the venous circulation; and (d) possibly to an obstructed condition of the veins themselves. (3) The hypersecretion variety is included in the list of types, because, as cerebro-spinal fluid is a secretory product of the "choroid gland," it would be logical to suppose a pathological condition of the gland itself or a pathological hypersecretion of the gland cells, due to the presence of a circulating toxin. (4) The condition known as *hydrocephalus occultus* occurs usually in children, and is characterized by excess of fluid in the ventricles, basal cisternæ and even throughout the sub-arachnoid space, without any increase in the cranial dimensions. As regards treatment, it is reasonably certain that the excessive accumulation of fluid is the dominant disturbing element of this disease. In the obstructive type, puncture through the corpus callosum, thus providing an outlet for the fluid into the sub-arachnoid space, gives the simplest and most effective method of relief. For the non-absorptive type, the author recommends the establishment of a drainage track into the pleural cavity. With hypersecretion the use of thyroid extract, a depressor of the choroid secretory activity, to the limit of tolerance, will be found of great benefit. With the occult type, in one case, a sub-temporal decompression, undertaken for the relief of the headache, vomiting, etc., caused the disappearance of all the signs and symptoms except a persistent, well-marked post-papillitic atrophy.

British Medical Association News.

SCIENTIFIC.

A clinical meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on June 9, 1916. Dr. Sinclair Gillies, the President, in the chair.

Drs. T. W. Lipscomb, St. J. W. Dansey and Harold Brown read a joint paper on three cases of acute abdominal symptoms due to hæmorrhage from a ruptured corpus luteum (see p. 58).

Dr. Gordon Craig said that the details of these cases illustrated the necessity of care from a medico-legal point of view. He was in the habit, when the symptoms pointed to a ruptured ectopic gestation, of telling his patients that there was a ruptured vessel internally. He instanced cases in which disastrous consequences had resulted from the diagnosis of extra-uterine pregnancy having been communicated to the patient's relatives when this condition did not exist. Hæmorrhage from a ruptured ovarian cyst produced symptoms which were indistinguishable from those of ruptured tubal gestation.

Dr. Ralph Worrall called attention to the fact that it was erroneous to speak of a ruptured ovarian cyst. It was the *corpus luteum*. He agreed with Dr. Gordon Craig in regard to the necessity for caution. When an ovarian cyst ruptured, there was no hæmorrhage unless there had been previous hæmorrhage into the cyst due to torsion of the pedicle. Not many cases of this kind had been recorded.

Dr. Crawford Robertson expressed the opinion that these acute abdominal cases were not uncommon. He referred to a case in which there was a history of ectopic gestation eight months previously. Nothing abnormal was discovered on vaginal examination. A tubal pregnancy was expected, but subsequent events proved that the condition was due to hæmorrhage from a ruptured Graafian follicle. The speaker thought that it was essential to avoid expressing any opinion in these cases before operation. He asked Dr. Dansey whether it was possible that the case was one of ovarian pregnancy.

Dr. J. C. Windeyer called attention to the fact that, under normal conditions, a very small amount of bleeding took place from the *corpora lutea*. The Fallopian tubes attempted to clear up the blood from the abdomen. In some cases a larger amount of bleeding took place from the *corpora lutea*.

Dr. Dansey stated that there were no traces of placental tissue discovered under the microscope.

THE ROYAL SOCIETY OF NEW SOUTH WALES.

A meeting of the Section of Public Health and Kindred Sciences of the Royal Society of New South Wales was held at the Society's House, Sydney, on July 11, 1916. Sir Thomas Anderson Stuart occupied the chair.

Mr. J. L. Bruce read a paper on *light and air in dwellings and factories*. He showed interesting diagrams representing the direction, intensity, and duration of the winds experienced in Sydney during a period of ten years. He exhibited models to illustrate the real and apparent motions of the sun, and stated how the information conveyed by the models and diagrams was to be applied in the placing of houses and laying out of streets. He explained why the north-easterly aspect was most suitable for houses in Sydney. Mr. Bruce discussed the lighting of buildings, and described a simple photometer of his own design. He said that an illumination of 50 foot-candles was necessary for the work in schools.

Sir Thomas Anderson Stuart pointed out that a southerly aspect had the advantage of coolness in summer, and mentioned some advantages of the semi-indirect system of illumination.

Mr. J. Nangle alluded to the necessity of placing the windows of a house to give the best lighting and not to conform to some architectural scheme.

Mr. A. D. Olle called attention to the wastefulness and expense of the indirect system of illumination.

Mr. Hector suggested that both direct and indirect systems might be installed for use as required. He also drew attention to the necessity of controlling the brilliancy of the headlights of motor cars.

THE CAUSES OF INVALIDITY.

Dr. J. H. L. Cumpston, Director of Quarantine, has issued an analysis of the causes of invalidity in respect of claims under the Invalid and Old-Age Pensions Act. Pensions have been granted to 27,484 individuals from November 19, 1910, when the Act came into operation, to August 27, 1915. It appears that no person has received an invalidity pension unless he has become permanently incapacitated whilst in Australia, unless the accident or invalid state of health was not self-induced nor in any way brought about with a view to obtaining a pension and unless his income or property does not exceed the limits prescribed in the case for applicants for old-age pensions. Dr. Cumpston discusses in some detail the basis of classification, and points out the limitations of the classification adopted. The certificates issued in Victoria numbered 8,191, while those issued in New South Wales numbered 6,952. The numbers in Queensland, South Australia, Tasmania and Western Australia were 2,674, 2,249, 1,770 and 1,143 respectively. In the next place he deals with the age distribution. Pensions were granted to persons between the ages of 16 and 20 in 5.57% of the total number. In the third and fourth decennia it represented 11.11% and 11.6%. Between the ages of 40 and 50 the percentage was 18.26, whereas the maximum was reached in the sixth decennia, when 35.64% of all the pensions were paid. It thus appears that 28.38% of those to whom pensions were granted on account of a permanent disability were under 40 years of age.

A list of the causes of invalidity which were discovered in 400 or more cases includes rheumatism, phthisis, disorders of the circulatory system, hemiplegia, accident, senility, defective vision, congenital imbecility, epilepsy, degenerations of the spinal cord, tubercular bones and joints, cancer and varicose veins. Invalidity due to rheumatism appears in the table 2,714 times. Dr. Cumpston points out that the term has not always been used by the medical referees with strict clinical accuracy. In all probability it includes all joint affections, whether rheumatic, gouty, or due to rheumatoid arthritis, but it does not include valvular disease of the heart resulting from acute rheumatism. He suggests that the application of appropriate treatment at the time of the first appearance of these disorders might remove the trouble in many cases. In other cases, the stage of the disease in which the patient is rendered incapable of earning his living might be materially delayed. He holds the opinion that the majority of persons under 50 years of age to whom pensions have been granted for this reason would not have become incapacitated until a later period of life had medical assistance been provided at an early stage.

Under the heading "phthisis" has been included, in addition to pulmonary tuberculosis, the condition spoken of as miners' phthisis. The total number of these cases was 2,532. In view of the fact that tuberculosis is regarded as a preventable disease, Dr. Cumpston is somewhat disturbed at finding that 42% of these cases affected persons under 40 years of age and 21.1% affected persons under 30 years of age.

He has less to say in regard to the disorders of the circulatory system, which was the cause of the invalidity in 9.92% of the total number. Hemiplegia accounted for 6.76%, accident for 6.44%, defective vision for 6.1% and senility for 5.94% of the total.

A special investigation has been undertaken in connexion with permanent incapacity in persons under 40 years of age. There were 6,519 instances. The most common cause was tuberculosis, including phthisis and tuberculosis of bones and joints. Congenital imbecility and epilepsy were also frequent. The author points out that in 19% of all the cases the cause was an affection of the nervous system. Defective vision led to invalidity in 5% of the persons under 40 years of age. Summing up this portion of the investigation, he concludes that tuberculosis, syphilis and gonorrhœa play the most prominent part.

In attempting to gauge the effect of syphilis as a cause of invalidity, Dr. Cumpston assumes that all the cases entered as degeneration of the spinal cord, insanity, epilepsy, congenital imbecility, congenital malformation and syphilis are dependent to some extent on syphilis. The number of cases recorded is 3,775.

The total number of affections which he regards as wholly or partly preventable is 7,444. These include degeneration of the spinal cord, congenital imbecility, congenital malformation, syphilis, defective vision, infantile paralysis, phthisis and tuberculosis of the bones and joints.

He concludes as follows: "The outcome of this enquiry has been to bring into prominence two main points:—

"(1) That pensions are being given to large numbers of people who are entitled to such pensions by reason of certain ailments which are susceptible to treatment in their earlier stages. Could any system be devised whereby large numbers of the community could have ready access to early medical treatment, a large proportion of future pensioners (estimating on the present basis) could be saved many years of suffering, and the nation would be saved much unproductive expenditure. In my opinion, a comprehensive scheme of national insurance offers such a means of alleviating distress as has been indicated.

"(2) That many pensioners are being paid on account of diseases which are, with proper measures, preventable—notably of tuberculosis and syphilis—and the results obtained indicate the advisability of more effectively attacking these diseases. Hence it may perhaps be permissible to repeat that a comprehensive scheme of national insurance offers the most promise in this direction also.

"Finally, the investigation has indicated that a properly controlled and co-ordinated system of scientific research into the causes of disease, the conditions which favour the development of disease, might effect a considerable economy, both in public money and in human life."

Public Health.

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending July 8, 1916:—

	Metropolitan Combined Districts.		Hunter River Combined Districts.		Remainder of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	4	2	1	0	7	3	12	5
Scarlatina ..	52	2	3	0	35	2	90	4
Diphtheria ..	41	0	2	0	60	4	103	4
C'bro-Sp'l Menin.	1	1	1	0	3	0	5	1
Infantile Paralysis	0	1	0	0	2	0	2	1
Pul. Tuberculosis	26	9	0	0	†	..	26	9

† Notifiable only in the Metropolitan and Hunter River Districts.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending July 9, 1916:—

	Metro- politan.		Rest of State.		Totals.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Diphtheria ..	69	3	51	0	120	3
Scarlatina ..	15	0	20	1	36	1
Enteric Fever ..	0	0	2	0	2	0
Pulmonary Tuberculosis	33	10	25	6	58	16
C'bro-Spinal Meningitis	19	..	8	..	27	..
Infantile Paralysis	1	..	0	..	1	..

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending July 8, 1916:—

Disease.	No. of Cases.
Pulmonary Tuberculosis ..	6
Diphtheria ..	33
Scarlatina ..	5
Cerebro-Spinal Meningitis ..	1
Enteric Fever ..	10
Varicella ..	5
Erysipelas ..	2
Infantile Paralysis ..	2

INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending July 1, 1916:—

	Enteric Fever. Cases.	Diph- theria. Cases.	Pulmonary Tuberculosis. Cases.	Ery- sipelas. Cases.	C'bro-Spinal Meningitis. Cases.
Metropolitan ..	1	7	3	0	1
Rest of State ..	2	5	5	1	0

THE HEALTH OF TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending July 8, 1916:—

Disease.	Hobart. Cases.	Country. Cases.	Whole State. Cases.
Diphtheria ..	2	20	22
Pulmonary Tuberculosis ..	2	2	4
Puerperal Fever ..	1	0	1
Cerebro-Spinal Meningitis ..	1	3	4
Scarlatina ..	0	1	1

THE HEALTH OF AUCKLAND.

The following notifications have been received by the District Health Officer, Auckland, for the month of June, 1916:—

Disease.	City. Cases.	Suburbs. Cases.	Country Districts. Cases.	Total Cases.
Scarlatina ..	57	56	53	166
Diphtheria ..	16	17	30	63
Enteric Fever ..	4	1	49	54
Pulmonary Tuberculosis	9	2	4	15
Septicæmia ..	3	1	3	7

INFECTIVE DISEASES.

The Official Bulletin of the Quarantine Service, issued on July 7, 1916, contains the following information:—

Small-pox.

Four cases of small-pox were notified in New South Wales between June 23 and July 6, 1916. There were no other cases in Australia.

In the Dutch East Indies, 697 cases and 124 deaths have been reported since the period dealt with in the last Bulletin. In Bombay there were 23 deaths from variola during the week ending June 3, 1916. Two cases of varioloid occurred in the Philippine Islands during the period from May 13 to June 10, 1916.

Plague.

In the fortnight from May 7 to May 20, 1916, there were 2,218 cases of plague and 1,736 deaths in India. The number of cases of plague reported between May 5 and May 18 in Egypt was 224, and the number of deaths 114. There were seven cases and eight deaths between May 20 and June 2, 1916, in Java. One case has been detected during the period from March 17 to April 27, 1916, in Mauritius.

Cholera.

Since the issue of the last report, 53 cases of cholera and 31 deaths have been reported in the Dutch East Indies. In the Philippine Islands, 20 cases, with three deaths, were registered between May 28 and June 10, 1916. There was one death from cholera in Bombay during the week ending June 3, 1916.

Quarantine Administration, Western Australia.

On June 30, 1916, the arrangement with the Western Australian State Health authorities relative to the administration of the Quarantine Act terminated, and Dr. D. G. Robertson entered upon his duties as Chief Quarantine Officer for Western Australia, and took over the administration on July 1, 1916.

Vital Statistics.

SOUTH AUSTRALIA.

The returns of births and deaths registered in South Australia during the month of May, 1916, have been published in the *South Australia Government Gazette* on June 22, 1916.

The estimated population on January 1, 1916, was 439,660. The number of births registered during the month was 1,104, and the number registered between January 1 and

May 31 was 4,921. The birth-rate for the month of May was equivalent to an annual birth-rate of 30 per 1,000 of population. This rate is the same as the mean rate for May of the years 1911 to 1916.

The number of deaths at all ages was 451. This is equivalent to an annual death-rate of 12.36 per 1,000 of population. The number of deaths of infants under one year of age was 65, which is equal to an infantile mortality of 58.87 per 1,000 births.

Among the causes of death, those affecting the cardiovascular system come first. There were 71 deaths in this category, including 50 from organic diseases of the heart and 14 from cerebral hæmorrhage. There were 38 deaths from tuberculosis, including 31 from pulmonary tuberculosis, 33 from pneumonia, 21 from diphtheria, 21 from diarrhoea and enteritis, 16 from bronchitis, 8 from meningitis, 3 from enteric fever, 3 from tetanus, 2 from acute nephritis, 2 from acute articular rheumatism, and 1 each from morbilli, pertussis, influenza and septicæmia. Cancer killed 37 persons. Among the 8 deaths from affections connected with the puerperal state, 6 were due to puerperal septicæmia. There were 24 deaths from Bright's disease.

The statistics for the city of Adelaide are also appended. Eighty-eight births were registered during May, which is equivalent to an annual birth-rate of 24.12 per 1,000 of population. The birth-rate is lower than that of the corresponding month in the past four years. There were 124 deaths, of which 15 were of children under one year of age. The number of deaths is reduced to 80 by the deduction of the deaths of persons not usually resident in the city. The corrected death-rate works out at 21.96 per 1,000 of population. Tuberculosis accounts for 9 of these deaths, organic diseases of the heart for 7, cancer for 6, cerebral hæmorrhage and meningitis for 5 each, and diphtheria for 6.

Naval and Military.

The following members of the Australian Army Medical Corps have been mentioned in General Sir Charles Munro's despatches of April 10, which have been published in the *London Gazette* of July 14, 1916: Lieutenant-Colonel A. H. Sturdee, Lieutenant-Colonel C. T. C. de Crespigny, Major G. W. Barber, Major A. Y. Fullerton, Captain E. T. Brennan, Captain A. V. Honman, Captain A. J. Black, Captain J. C. Campbell, Captain H. V. P. Conrick, Captain C. W. Thompson and Captain A. Clark.

We note with pleasure that there are no names of medical men in the 184th casualty list, which was published on July 13, 1916. Among the progress reports, it is announced that Captain W. R. Aspinall is convalescent and Captain A. McKillop is progressing satisfactorily. In the 185th list a notice appears that Major T. M. Furber has been injured, and that Captain C. H. Wesley is ill in hospital. Lieutenant-Colonel H. K. Bean and Captain W. E. Kay have returned to duty.

The following has appeared in the *Commonwealth of Australia Gazette*, No. 83, under date of July 13, 1916:—

Appointments.

Army Medical Corps.

To be Captains—

Captain W. D. Kirkland, Australian Army Medical Corps. Dated 19th May, 1916.

Honorary Captain J. W. Hart, Australian Army Medical Corps Reserve. Dated 5th April, 1916.

Honorary Captain A. J. McK. Fargie, Australian Army Medical Corps Reserve. Dated 2nd June, 1916.

Henry Hunter Griffiths. Dated 26th February, 1916.

John Gratton Wilson. Dated 4th April, 1916.

John George Morris Beale. Dated 9th May, 1916.

Samuel Leslie Germon. Dated 22nd May, 1916.

Richard Constantine Bassett. Dated 14th June, 1916.

Albert Valdemar Roy Hansen. Dated 15th June, 1916.

Captain (provisional) J. G. Mackay, Australian Army Medical Corps. Dated 23rd June, 1916.

Captain (provisional) L. C. Lade, Australian Army Medical Corps. Dated 7th March, 1916.

Honorary Captain P. N. Whitehead, Australian Army Medical Corps Reserve. Dated 3rd July, 1916.

Honorary Captain S. M. Ware, Australian Army Medical Corps Reserve. Dated 1st December, 1915.

John Shaw Mackay. Dated 20th May, 1916.

Arthur Martel Aspinall. Dated 15th June, 1916.

Raphael Leo Kenihan. Dated 30th June, 1916.

To be Majors—

Honorary Captain H. Stoker, V.D., Australian Army Medical Corps Reserve. Dated 6th July, 1916.

Honorary Captain A. H. Thwaites, Australian Army Medical Corps Reserve. Dated 1st July, 1916.

1st Military District.

Australian Army Medical Corps Reserve—

William Wallis Hoare to be Honorary Captain. Dated 1st July, 1916.

Honorary Captain R. A. G. Malcolm is transferred to Australian Army Medical Corps and to be Captain (provisionally and temporarily). Dated 1st June, 1916.

2nd Military District.

Australian Army Medical Corps Reserve—

Richard Fairfax Reading to be Honorary Major. Dated 1st July, 1916.

George Leigh Tomlinson to be Honorary Captain. Dated 5th May, 1916.

Wolfe Solomon Brown to be Honorary Captain. Dated 25th May, 1916.

Harry Cecil Rutherford Darling, Henry Holland Monckton, and Allan Seymour Walker to be Honorary Captains. Dated 1st July, 1916.

Percie Charter Charlton and Nicholas Ann Van Wessem to be Honorary Lieutenants. Dated 1st June, 1916.

Honorary Captain G. M. Hay is transferred to Australian Army Medical Corps, and to be Captain (provisionally and temporarily). Dated 17th April, 1916.

3rd Military District.

Australian Army Medical Corps Reserve—

Alan Syme Johnson to be Honorary Captain. Dated 1st December, 1915.

Herbert William Franklands to be Honorary Captain. Dated 17th April, 1916. (This cancels the notification respecting the appointment of Herbert William Fankhauser which appeared on page 1038 of *Commonwealth of Australia Gazette*, No. 54, of 4th May, 1916.)

Charles Edgar King and Charles Westland Greene to be Honorary Captains. Dated 1st July, 1916.

Honorary Captain R. M. Lane is transferred to Australian Army Medical Corps, and to be Captain (provisionally and temporarily). Dated 1st July, 1916.

4th Military District.

Australian Army Medical Corps Reserve—

Arthur Henry Gault to be Honorary Major. Dated 9th February, 1916.

Captain (provisional) A. C. Wilton is transferred from Australian Army Medical Corps, and to be Honorary Captain. Dated 1st June, 1916.

5th Military District.

Australian Army Medical Corps Reserve—

Frederick James Walden and Leslie Thomson Gillespie to be Honorary Captains. Dated 16th August, 1915. (This cancels the notification respecting these officers which appeared on page 2453 of *Commonwealth of Australia Gazette*, No. 116, of 25th September, 1915.)

Walter Percy Yates to be Honorary Captain. Dated 1st July, 1916. (The notification respecting the appointment of Arthur Cardell Oliver as Honorary Captain, which appeared on page 1038 of *Commonwealth of Australia Gazette*, No. 54, of 4th May, 1916, is cancelled.)

6th Military District.

Australian Army Medical Corps—

Stuart Galloway Gibson to be Captain (provisionally and temporarily). Dated 1st June, 1916.

Rupert Robinson Holmes, Robert George Sharp, and Robert Cecil Oliver to be Honorary Lieutenants. Dated 28th February, 1916. (This cancels the notification respecting these officers which appeared on page 614 of *Commonwealth of Australia Gazette*, No. 35, of 16th March, 1916.)

Arthur John Gall to be Honorary Lieutenant. Dated 1st July, 1916.

The provisional appointment of Captain C. G. Thompson is confirmed.

Australian Imperial Force Head-Quarters.

To be Temporary Lieutenant-Colonel—

Major T. E. V. Hurley. Dated 22nd March, 1916.

Australian Base Depot Medical Stores.

To be Major—

Captain (temporary Major) A. L. Buchanan. Dated 25th February, 1916.

Appointments Terminated.

The appointments of the undermentioned officers are terminated from dates as stated against their respective names:—

Major G. Read. 1st June, 1916.

Captain H. E. A. Jackson. 20th May, 1916.

Captain W. M. Sinclair. 7th April, 1916.

Captain S. J. H. Moreau. 29th May, 1916.

Captain C. R. Lease. 10th June, 1916.

Captain F. G. Meade. 6th June, 1916.

Medical Matters in Parliament.

VICTORIA.

His Excellency the Governor of Victoria delivered his speech at the opening of the Session of Parliament on July 5, 1916. In the course of his speech, he dealt with certain matters of medical and hygienic interest. After making reference to the River Murray Commission and the Acts, which have been passed by the Parliaments of the Commonwealth and of the States concerned, required to ratify the Murray River agreement, and after having dealt briefly with the administration of the Sewerage Districts Act, he proceeded to outline various Bills which will be submitted to the two Houses.

"It is the intention of my advisors to submit at the earliest opportunity for your consideration a Bill authorizing a referendum as to the closing hour for the sale of liquor. . . .

"Measures will be introduced to render more effective the administration of the law as to the public health and to amend the Acts relating thereto.

"The subject of venereal diseases will also be dealt with.

"Proposals will be submitted for legislation for the control and regulation of hospitals and charities. . . .

Among the other Bills mentioned, those dealing with weights and measures, daylight saving and nurses' registration may be of interest to the members of the medical profession.

PROFESSOR ELIE METCHNIKOFF.

The death has been reported of Professor Elie Metchnikoff, Assistant Director of *L'Institut Pasteur*, at the age of 71 years. The Pasteur Institute, France, and the whole medical profession have cause to mourn the loss of a man whose genius and fertility of ideas insured for him a prominent position among the world's greatest scientists many years ago. The list of distinctions which were poured on him throughout his career is too long to reproduce in this place. Suffice it to mention that he was a member of *l'Académie de Médecine*, a foreign member of the Royal Society of London and the recipient of the Nobel Prize for Medicine for the year 1908. The prize was awarded to him and Paul Ehrlich jointly. Metchnikoff was head of the IV. Service at the *Institut Pasteur*, where he held his courses in bacteriology and biology and where, during years of patient work, he built up his doctrine of the cellular explanation of immunity. Metchnikoff's work on phagocytosis is classical, and it appears almost strange at the present day to recall the opposition which it created. Even after he had demonstrated that leucocytes were capable of ingesting bacteria, the majority of bacteriologists preferred to regard this

phenomenon as something unexplained, and quite apart from the protective arrangements of the body. Little by little he forced men to realize that phagocytes formed the first line of defence against the invading bacterium, and that their activity could be depended on within certain limits in every case. Later, when Ehrlich and his school sought to establish the humeral theory of immunity and to ascribe to the lysins and antitoxins the most important part in the protective mechanism of the organism against infection, a protracted controversy ensued, and for several years the two schools appeared to be irreconcilable. Increasing knowledge, however, proved that both were founded on fact, and, indeed, that Metchnikoff's phenomenon of phagocytosis could be stimulated to increase by the activity of the reaction products of the invading bacteria.

In the space at our disposal, it is impossible at present to follow the various stages of the French *savant's* career. We hope to be in a position to do this in some future issue. Added to his great scientific attainments was a delightful personality. His method of speech, his imposing appearance, his geniality and his sensitive nature impressed all who came in contact with him. Though Elie Metchnikoff is dead, his fame will live with us as long as the science which he helped to found.

Correspondence.

CRIMINOLOGY AS A BRANCH OF MEDICINE.

Sir,—In my article on "Criminology as a Branch of Medicine," I credited a patient with receiving a month's imprisonment for attempting suicide, in order to get away from her persecutors. The patient received the month's imprisonment for destroying property, being actuated by her ideas of being persecuted. The attempted suicide to escape her persecutors led to her certification. My mistake was due to the manner in which the copy of the warrant was made into the Case Book from which I obtained the history of the case. The fact still remains that the patient was sent to prison because she acted in accordance with her delusions.

Yours, etc.,

W. A. T. LIND.

18 Walpole Street, Kew,
Victoria, July 14, 1916.

THE METRIC SYSTEM IN PRESCRIBING.

Sir,—In the discussion of the adoption of the metric system, there is one disadvantage which has not been considered. The fundamental ten is not readily divisible into parts, whereas the use of the duodecimal gives ready subdivision by two, three, four and six, and in the case of the use of sixty in place of a hundred, there is the additional advantage of subdivision by five and ten. It is this flexibility of the present system and the dislike to change that are the two main factors militating against the adoption of the Continental system.

The same arguments hold, of course, against the present decimal system of numerals when compared with the duodecimal. It is unfortunate in some respects that our rude forefathers had not six digits on each hand in place of five. Then doubtless the duodecimal had prevailed.

There is only a little doubt that a few years must see the adoption of the metric system.

Yours, etc.,

F. S. STUCKEY.

Inverell, July 13, 1916.

Proceedings of the Australasian Medical Boards.

NEW SOUTH WALES.

The following have been registered under the provisions of "The Medical Act, 1912 and 1915," as duly qualified medical practitioners:—

Mahon, Austin L'Estrange, M.B., B.S., 1916, Univ. Melb.
Shaw, Gladys Margaret Wilkes, M.B., B.S., 1916, Univ. New Zealand.

For additional registration:—

Park, Charles Leslie, Dip. Public Health, 1915, Univ. Melb.

VICTORIA.

The following have been registered under the provisions of the "Medical Act, 1915":—

Armstrong, William Louther, M.B. et Ch.B., Melb., 1916.
Keyes, David Tyrrell, M.B. et Ch.B., Melb., 1916.
Porter, John Rees, M.B. et Ch.B., Melb., 1916.
Shelley, Joseph Eustace, M.B. et Ch.B., Melb., 1915.

Books Received.

I. K. THERAPY IN PULMONARY TUBERCULOSIS, with a Summary of Cases and Forty-two Illustrative Charts, by William Barr, M.D., D.Cs., D.P.H.: 1916. Bristol: John Wright & Sons, Ltd.: Demi 8vo., with 82 pages. Price, 3s. 6d.
LOCALIZATION BY X-RAYS AND STEREOSCOPY, by Sir James MacKenzie Davidson, M.B., C.M.: 1916. London: H. K. Lewis & Co., Ltd.: Royal 8vo., pp. 72, with 26 stereoscopic plates. Price 7s. 6d.
MENTALLY DEFICIENT CHILDREN, THEIR TREATMENT AND TRAINING, by G. E. Shuttleworth, B.A., M.D., etc., and W. A. Potts, M.A., M.D.: Fourth Edition, 1916. London: H. K. Lewis & Co., Ltd.: Crown 8vo., pp. 284. Price, 7s. 6d.

Medical Appointments.

Dr. Martin Magill has been appointed Government Medical Officer at Bingara, New South Wales, in place of Dr. J. W. Hart (resigned).

The following have been appointed to the staff of the Adelaide Hospital: Dr. A. M. Cudmore, Honorary Surgeon; Dr. B. Smeaton, Honorary Assistant Surgeon; Dr. A. W. Hill, Honorary Ophthalmic Surgeon; Dr. Helen Mary Mayo, Visiting Bacteriologist in Charge of Vaccine Department; and Dr. H. F. Shorney, Honorary Ophthalmic Surgeon.

Additional appointments to the Advisory Council on Science and Industry from South Australia and Western Australia were announced by the Federal Executive Committee on July 6, 1916. The following is a list of the new members: Professor E. H. Rennie, Mr. W. A. Hargreaves, Mr. G. Brookman, Professor J. W. Paterson and Mr. J. W. Sutherland.

Medical Appointments Vacant, etc.

*For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xvii.

Education Department, New South Wales, Medical Officer (Female).

Women's Hospital, Melbourne, Resident Medical Superintendent.

Thursday Island Hospital, Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
QUEENSLAND.	
(Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United F.S. Institute.
WESTERN AUSTRALIA.	
(Hon. Sec., 230 St. George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
SOUTH AUSTRALIA.	
(Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.

Branch.

APPOINTMENTS.

NEW SOUTH WALES.

(Hon. Sec., 30-34 Elizabeth Street, Sydney.)

Department of Public Instruction—New Appointments as Medical Officer, Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician.
Australian Natives' Association.
Balmain United F.S. Dispensary.
Canterbury United F.S. Dispensary.
Leichhardt and Petersham Dispensary.
M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney.
Marriekville United F.S. Dispensary.
N.S.W. Ambulance Association and Transport Brigade.
North Sydney United F.S.
People's Prudential Benefit Society.
Phoenix Mutual Provident Society.
F.S. Lodges at Casino.
F.S. Lodges at Lithgow.
F.S. Lodges at Orange.
F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe.
Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.

VICTORIA.

(Hon. Sec., Medical Society Hall, East Melbourne.)

Brunswick Medical Institute.
Bendigo Medical Institute.
Prahran United F.S. Dispensary.
Australian Prudential Association Proprietary, Limited.
National Provident Association.
Life Insurance Company of Australia, Limited.
Mutual National Provident Club.

NEW ZEALAND: WELLINGTON DIVISION.

(Hon. Sec., Wellington.)

F.S. Lodges, Wellington, N.Z.

Diary for the Month.

- July 25.—N.S.W. Branch, B.M.A., Organization and Science Committee.
July 26.—Vic. Branch, B.M.A., Council.
July 27.—S.A. Branch, B.M.A., Branch.
July 28.—N.S.W. Branch, B.M.A., Ordinary.
Aug. 1.—N.S.W. Branch, B.M.A., Medical Politics Committee.
Aug. 2.—Vic. Branch, B.M.A., Branch.
Aug. 4.—Q. Branch, B.M.A., Branch.
Aug. 8.—N.S.W. Branch, B.M.A., Ethics Committee.
Aug. 10.—Vic. Branch, B.M.A., Council.
Aug. 11.—N.S.W. Branch, B.M.A., Clinical Evening.
Aug. 11.—S. Aust. Branch, B.M.A., Council.
Aug. 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Aug. 16.—W. Aust. Branch, B.M.A., General.
Aug. 16.—North Eastern Med. Assoc. (N.S.W.).
Aug. 17.—City Med. Assoc., N.S.W.
Aug. 18.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.

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